CLAIMS

WE CLAIM:

1. A gelled anode mixture comprising a metal alloy powder, a gelling agent, an alkaline electrolyte, and a surfactant having the general formula Y SOx^-.

2. A gelled anode mixture as claimed in Claim 1 wherein Y is selected from the group consisting of an alkyl group, an aryl group, an alkylaryl group, a carboxy acid group, and a salt of any of the foregoing.

3. A gelled anode mixture as claimed in Claim 1 wherein the surfactant is a salt of a sulfated octadecanoic acid.

4. A gelled anode mixture as claimed in Claim 1 wherein the surfactant is a sodium salt of sulfated oleic acid.

5. A gelled anode mixture as claimed in Claim 1 wherein the surfactant is selected from the group consisting of Witconate™ 1840X, Dyasulf 2031, Dymosol 2031, Freedom SOA-70, and Freedom SOA-70WV.

6. A gelled anode mixture as claimed in Claim 1 further comprising an organic phosphate ester surfactant.

7. A gelled anode mixture as claimed in Claim 6 wherein the organic phosphate ester surfactant is an ethylene oxide-adduct type organic phosphate ester.

8. A gelled anode mixture as claimed in Claim 6 wherein the organic phosphate ester surfactant is RM-510.

9. A gelled anode mixture as claimed in Claim 6 wherein Y is selected from the group consisting of an alkyl group, an aryl group, an alkylaryl group, a carboxy acid group, and a salt of any of the foregoing.

10. A gelled anode mixture as claimed in Claim 9 wherein the surfactant of Claim 1 is a salt of a sulfated octadecanoic acid.

11. A gelled anode mixture as claimed in Claim 9 wherein the surfactant of Claim 1 is a sodium salt of sulfated oleic acid.

12. A gelled anode mixture as claimed in Claim 9 wherein the surfactant of Claim 1 is selected from the group consisting of Witconate™ 1840X, Dyasulf 2031, Dymosol 2031, Freedom SOA-70, and Freedom SOA-70WV.

13. A gelled anode mixture as claimed in Claim 12 wherein the organic phosphate ester surfactant is an ethylene oxide-adduct type organic phosphate ester.

14. A gelled anode mixture as claimed in Claim 13 wherein the organic phosphate ester surfactant is RM-510.

15. A gelled anode mixture comprising a an alloyed zinc powder, a gelling agent, an alkaline electrolyte, a sodium salt of sulfated oleic acid and an ethylene oxide-adduct type organic phosphate ester.

16. A gelled anode mixture as claimed in Claim 15 wherein the sulfated oleic acid is selected from the group consisting of Witconate™ 1840X, Dyasulf 2031, Dymosol 2031, Freedom SOA-70, and Freedom SOA-70WV, and the organic phosphate ester is RM-510.

17. An alkaline electrochemical cell comprising:

a positive current collector;

a cathode in contact with the positive current collector;

a gelled anode comprising a alloyed zinc powder, a gelling agent, an alkaline electrolyte, and a surfactant having the general formula Y SOx^-;

a separator between the cathode and the anode; and

a negative current collector in electrical contact with the anode.

18. A alkaline electrochemical cell as claimed in Claim 17 wherein Y is selected from the group consisting of an alkyl group, an aryl group, an alkylaryl group, a carboxy acid group, and a salt of any of the foregoing.

19. A alkaline electrochemical cell as claimed in Claim 17 wherein the surfactant is a salt of a sulfated octadecanoic acid.

20. A alkaline electrochemical cell as claimed in Claim 17 wherein the surfactant is a sodium salt of sulfated oleic acid.

21. A alkaline electrochemical cell as claimed in Claim 17 wherein the surfactant is selected from the group consisting of Witconate™ 1840X, Dyasulf 2031, Dymosol 2031, Freedom SOA-70, and Freedom SOA-70WV.

22. A alkaline electrochemical cell as claimed in Claim 17 further comprising an organic phosphate ester surfactant.

23. A alkaline electrochemical cell as claimed in Claim 22 wherein the organic phosphate ester surfactant is an ethylene oxide-adduct type organic phosphate ester.

24. A alkaline electrochemical cell as claimed in Claim 22 wherein the organic phosphate ester surfactant is RM-510.

25. A alkaline electrochemical cell as claimed in Claim 22 wherein Y is selected from the group consisting of an alkyl group, an aryl group, an alkylaryl group, a carboxy acid group, and a salt of any of the foregoing.

26. A alkaline electrochemical cell as claimed in Claim 25 wherein the surfactant of Claim 17 is a salt of a sulfated octadecanoic acid.

27. A alkaline electrochemical cell as claimed in Claim 25 wherein the surfactant of Claim 17 is a sodium salt of sulfated oleic acid.

28. A alkaline electrochemical cell as claimed in Claim 25 wherein the surfactant of Claim 17 is selected from the group consisting of Witconate™ 1840X, Dyasulf 2031, Dymosol 2031, Freedom SOA-70, and Freedom SOA-70WV.

29. A alkaline electrochemical cell as claimed in Claim 28 wherein the organic phosphate ester surfactant is an ethylene oxide-adduct type organic phosphate ester.

30. A alkaline electrochemical cell as claimed in Claim 29 wherein the organic phosphate ester surfactant is RM-510.

31. A alkaline electrochemical cell comprising an alloyed zinc powder, a gelling agent, an alkaline electrolyte, a sodium salt of sulfated oleic acid and an ethylene oxide-adduct type organic phosphate ester.

32. A alkaline electrochemical cell as claimed in Claim 31 wherein the sulfated oleic acid is selected from the group consisting of Witconate™ 1840X, Dyasulf 2031, Dymosol 2031, Freedom SOA-70, and Freedom SOA-70WV and the organic phosphate ester surfactant is RM-510.